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American Affection and Ecuadorian Expression:
Cultural Differences in Romantic Relationships

By

Jenni Miska

Accepted in Partial Completion
of the Requirements for the Degree
Master of Degree Science

ADVISORY COMMITTEE

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GRADUATE SCHOOL

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Master's Thesis

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Jenni Miska

May 21, 2019

American Affection and Ecuadorian Expression: Cultural Differences in Romantic Relationships

A Thesis
Presented to
The Faculty of
Western Washington University

In Partial Fulfillment
Of the Requirements for the Degree
Master of Science

by
Jenni Miska
May 2019

Abstract

Though people express affection in a wide variety of ways, empirical investigations have yet to converge on one appropriate conceptualization of this construct. Furthermore, investigators have yet to explore what may predict these differences in preferences for different affection expressions. Because belief systems range both across the world and within cultures, we explored expressions of affection across and within cultures to understand how affection expressions may look and be predicted differently. To do this, we recruited 141 Ecuadorian participants through snowballing techniques in Ecuador and 182 United States participants through online snowballing techniques and through Amazon's Mechanical Turk. All participants completed a variety of measures including an original scale assessing preferences for expressing affection, the Romantic Beliefs Scale (Sprecher & Metts, 1989), The Implicit Theories of Romantic Relationships Scale (Knee, 1998), and a within-group measure of culture (Triandis & Gelfand, 1998). First, we conducted exploratory factor analyses within each sample to determine the best factor structure for affection preferences. Results suggest that a 2-Factor solution may best describe affection preferences in Ecuador, whereas a 4-Factor solution may be best in the United States. We then conducted correlational analyses and path analyses to determine how cultural beliefs, romantic relationship beliefs, and affection preferences related in both samples, respectively. Results reveal that different cultural and romantic relationship beliefs relate differently to preferences for different expressions of affection in different cultures. We discuss implications and future directions for this work.

Keywords: Affection, Romantic Relationship Beliefs, Cultural Differences, Love Languages

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Table of Contents

List of Tables and Figures

American Affection and Ecuadorian Expression: Cultural Differences in Romantic Relationships

Every year on the 14th of February when stores are displaying their freshest flowers and tastiest chocolates in the window, many people become reminded to search for the best way to show their partner affection. Though for some people this may present as increased hugging, kissing, and hand-holding, others might instead write love letters or send sweet text messages across the course of the day. Others experience the sensation of affection when their partner engages in a specific action for them: perhaps doing the dishes or even shoveling a snowy driveway. Others, still, more often feel affection when their partner takes time listen to them, support them, and share in spent time together. The ways in which people express affection to their partners vary as much as people themselves do, yet empirical research has yet to converge on an appropriate approach to studying the variations in affection expressions.

Affection Expressions: What do they look like?

One popular conceptualization of the ways that people express affection is the five love languages, outlined by Gary Chapman in his popular lay book, *The Five Love Languages: How to Express Heartfelt Commitment to Your Mate* (1992). His model defines five different ways that people express affection: *words of affirmation*, *quality time*, *receiving gifts*, *acts of service*, and *physical touch*. These five ways of expressing affection reflect the five different ways that Chapman suggests all people express affection, and this conceptualization only continues to grow in popularity. As of present day, his book has been translated into over 50 languages and has sold over 12 million copies worldwide (Chapman, n.d.). Furthermore, many marriage counselors and therapists continue to utilize his book as a tool in their practice (e.g. Front Range Counseling, 2014; Symmetry Counseling, 2017; Wasatch Family Therapy, 2019; etc.), clearly highlighting a commonly held approach to thinking about expressions of affection.

Despite the outpouring of public support for this conceptualization, this five-factor structure has yet to garner any substantial empirical support. In 2006, Egbert and Polk made the first empirical attempt to investigate Chapman's Love Languages by creating a 16-item Likert-type scale of Chapman's Love Languages. They asked participants in the United States to rate how often they tend to express affection to their partner on a 1-7 Likert-Type scale. Results from their confirmatory factor analyses revealed that although the comparative fit for the five-factor model was better than a four-factor, three-factor, or unidimensional model, the absolute fit of the five-factor model was poor. These results suggest that although a five-factor structure was better than any other model, it still did not reflect a structure that seemed accurately representative of the data.

Surijah and Septiarly (2016) also attempted to investigate Chapman's Love Languages with an Indonesian sample. They created a Likert-type scale similar to Egbert and Polk (2006) that asked participants to rate on a 1-5 scale how much they agreed or disagreed with items that reflected thoughts and behaviors typical of each love language. Although the results from their exploratory factor analyses suggested an initial five-factor structure, further investigation of the factor loadings suggest that these five factors were not definitively clear as many items cross-loaded across factors. Dincyurek and Ince (2018) used a similar process by attempting to translate the Love Languages measure into Turkish, but again, the five-factor structure that emerged included cross-loading items across the multiple factors. Though each of these studies suggest marginal support for a five-factor structure of affection expressions, the lack of both comparative and absolute fit as well as clear, simple structure suggests that more research is needed.

Floyd and Morman (1998), however, have attempted to investigate affection expressions from more of a bottom-up approach. Instead of utilizing a lay conceptualization to drive their analytic approaches, they conducted a series of factor analyses to explore the ways that different samples of participants reported communicating affection. Through these analyses, Floyd and Morman concluded that a three-factor solution best fit the data describing different ways of expressing of affection which they titled the Affectionate Communication Index (ACI). Their first factor, *direct, verbal affection*, seems to parallel Chapman's (1992) words of affirmation factor, both focusing on the ways people use direct, verbal proclamations such as "I love you," or, "You're my best friend." Their second factor emerged as *direct, nonverbal affection*, paralleling Chapman's physical touch factor, both characterized by actions that are directly indicative of affection, such as hugging or kissing. They labeled their third factor as supportive affection, characterized by actions that are less overtly related to affection such as helping with problems or sharing private information. Though this factor somewhat captures Chapman's acts of service factor, it also includes items which would seem to be more reflective of the quality time factor (such as sharing private information). As highlighted here, though some parallel exists between the two approaches, the analyses conducted by Floyd and Morman suggest a smaller number of factors.

Since the development of the ACI (1998), few studies have used these three different ways of expressing affection for further investigation. Morman and Floyd (1999) and Park, Vo, and Tsong (2009) used these categorizations to investigate how affection expressions differed in different types of relationships, specifically examining which types of affection are more prevalent in parent-child relationships. Punyanunt-Carter (2004) used these categorizations for a similar approach, instead examining differences and similarities between married and unmarried

couples. Though these studies revealed that affection expression varied systematically based on the type of relationship, no studies to date seem to have explored how these categorizations of affection expressions vary across individuals. Furthermore, the development of both the ACI and Chapman's (1992) Love Languages took place in the United States, highlighting a severe oversight in the conceptualization of affection expressions for the majority of the world.

Researchers that have attempted to study differences in expressions of affection in places other than the United States instead often resort to a third approach of conceptualizing affection expressions: the dichotomization of verbal and nonverbal affection behaviors. Hoxha and Hatala (2011) compared affection expressions in Albania to affection expressions in the United States, suggesting that affection is often expressed more verbally in the United States than Albania. Gareis and Wilkins (2011) conducted a similar study, concluding that affection is often expressed more verbally in the United States than compared to Germany. Further, Wilkins and Gareis (2006) revealed that international students attending university in the United States engaged in saying "I love you" less often than the American university students, further promoting a dichotomous approach to the ways in which people express affection. Although this approach includes people from nations outside of the United States, dichotomizing affection expressions into either verbal or nonverbal categories may reduce the nuanced differences in how people express affection. Furthermore, the lack of any empirical development suggesting a dichotomous approach further warrants deeper investigation into the construct of affectionate expressions.

Due to the variety of approaches with which researchers attempt to investigate expressions of affection, the first purpose of the present study is to understand what may be the best way to categorize methods of expressing affection. Though Chapman's Five Love

Languages continue to garner popular support, empirical investigations of the love languages have not provided strong support for this conceptualization. Though Floyd and Morman (1998) used an empirical approach to develop the ACI, their conceptualization was only developed with United States samples. Though the dichotomous approach of affection expressions includes people from a variety of different cultures, no empirical investigation has yet to examine how nuanced affection expressions may look beyond a verbal and nonverbal approach. Thus, through using pieces of each of these approaches in the present study, we hope to develop a better understanding of how to measure and describe expressions of affection.

Affection Expressions: Why are they different?

Despite the variety of approaches to understanding expressions of affection, all seem to agree that people do vary in how they express affection. Though researchers have explored how expressions of affection differ in different types of relationships (e.g Morman & Floyd, 1999; Park et al., 2009; Punyanunt-Carter (2004), no research yet has explored how preferences may differ among individuals. Though many factors could be influential in exploring these individual differences, we are interested in examining how a person's beliefs may be influential. Beliefs shape the lens through which an individual views and understands their own experiences (Berlo, 1960). This lens then guides how an individual engages with others, and colors the ways in which they develop their preferences for certain behaviors. When considering the array of belief systems which may be influential in the development of preferences for specific expressions of affection, we were especially interested in exploring cultural beliefs and romantic relationship beliefs.

Cultural beliefs. The culture in which an individual is socialized often serves as a guide for appropriate behavioral practices when interacting and communicating with others (Ekman &

Friesen, 1969). Because most cultures have developed a set of expected norms for how people should express emotions, perhaps these norms may influence the expression of a specific emotion such as affection. One of the most widespread ways that cultural beliefs are studied by researchers is through an individualistic and collectivistic dichotomization. Because so many researchers have attempted to explore this cultural dimension, the definitions for individualism and collectivism are ranging. Individualism can include components such as an independent view of self, personal autonomy, freedom of choice, and commitment to achieving status (Oyserman, Coon, & Kemmelmeier, 2002), all of which inherently reflect the needs of the individual before the needs of the group (Triandis, 1995). In contrast, collectivism can include components such as a focus on groups, communal goals, sacrificing individual needs, and collaboration with others (Oyserman et al., 2002), all of which inherently reflect the needs of the group before the individual (Triandis, 1995). In this way, these two cultural orientations seem to reflect differences in priorities for people of these respective communities which researchers have found also results in behavioral differences.

Specifically, regarding the expression of emotions, research suggests that people from individualistic communities tend to be more expressive of their emotions compared to people from more collectivistic communities (Matsumoto, Willingham, & Olide, 2009). Because individualistic communities place a greater value on the needs of the individual than on the needs of the group, being able to overtly express emotions enables people from these communities to explicitly and directly communicate their needs with those around them. Specific to the context of communicating affection, people from individualistic communities such as the United States often express their love verbally (Hoxha & Hatala, 2012; Gareis & Wilkins, 2011; Ting-Toomey, 1991). Perhaps verbally saying the words ‘I love you’ communicates affection in a very direct

and easy to decipher manner which enables people with more of these self-focused beliefs to aptly register these actions as affectionate.

In contrast, however, collectivistic communities place a greater value on the needs of the group than the needs of the individual. Because of this, researchers report that people from collectivistic communities express emotions less directly or overtly than people from individualistic communities (Allen, Landowski, & Nunnally, 2013). By exhibiting less outward emotion, the social order of the community is more likely to be maintained, and the needs of the group are emphasized above the needs of the individual. When considered in the context of affection, research suggests that people from collectivistic cultures often express their affection much less verbally compared to people from more individualistic cultures (Gareis & Wilkins, 2011; Hoxha & Hatala, 2012; Wilkins & Gareis 2006). Perhaps communicating affection through nonverbal behaviors such as hugging, hand-holding, or working together in shared tasks reflects an inherent other-focus as these affectionate behaviors directly benefit both partners rather than solely serving the self. Specifically, affection expressions which more directly accommodate the other may foster growth within the relationship, supporting the collectivistic desire of coherent group functioning.

Triandis and Gelfand (1998) attempted to reach beyond the dichotomization of individualism and collectivism by further describing a horizontal and vertical dimension of culture. They described vertical cultures as ones in which people hold independent views of the self and where social hierarchy is high. In contrast, horizontal cultures hold interdependent views of the self and social hierarchy is low, thereby promoting higher levels of social equality. Though the views of the self and social hierarchy are often grouped into the larger constructs of individualism and collectivism, Triandis and Gelfand described the freedom to choose as the

staple of individualistic and collectivistic communities. Individualistic communities, they described, as cultures where individuals have high power to choose things in their societies, whereas individuals in collectivistic communities have low power to choose. In this way, communities that have low power to choose but still view the self as independent and have low social equality reflect a vertical collectivistic culture. In contrast, communities that have high power to choose but still view the self as interdependent and have higher social equality reflect a horizontal individualistic culture.

By using this approach to conceptualize cultural differences, we may be able to further differentiate how different components of culture relate specifically to different preferences for expressions of affection. Specifically, perhaps individuals high in vertical individualism, the most traditionally individualistic belief set, may prefer more direct and obvious ways of expressing affection. In contrast, perhaps individuals high in horizontal collectivism, the most traditionally collectivistic belief set, may prefer less direct and more supportive ways of expressing affection. Because vertical collectivism and horizontal individualism by definition include beliefs that focus both on the self and on others, exploring how these cultural beliefs relate to romantic relationship beliefs and to expressions of affection may lend insight into how these variables are interrelated.

Romantic relationship beliefs. Another set of beliefs which may guide individuals to behave in particular ways is their implicit attitudes about romantic relationships. Knee (1998) identified two implicit beliefs which often guide individuals in their approach to seeking out a potential partner. Destiny beliefs describe a fixed and unchangeable approach to romantic relationships, whereby potential relationship partners are either destined to be together or they are not. Furthermore, people who hold destiny beliefs also believe that relationships should start

off well from the beginning, and that early troubles within a relationship indicate a poor match between partners (Knee & Petty, 2013). In this way, people with destiny beliefs believe that partners do not grow and develop together, but that the perfect relationship will accommodate their own needs as imagined. Therefore, they reflect a self-focus because the success of their relationship is predetermined from their own needs rather than recognizing and accommodating the needs of the other.

Growth beliefs, in contrast, reflect the tendency to recognize relationships as able to change and grow with time (Knee, 1998). This belief system instead includes beliefs such as successful relationships building out of the resolution of incompatibilities, problems as having the potential to bring partners closer together, and time and effort required to cultivate a good relationship (Knee & Petty, 2013). In this way, people who endorse growth beliefs believe that people, and moreover relationships, have the ability to grow and change over time. Because of this, people with this belief system may reflect more of an other-focus, as the success of their relationship is born out of their ability to accommodate and collaborate with a partner.

Though no research has examined how these relationship beliefs may relate to different preferences for expressions of affection, the available research warrants potential applications for relevant comparisons. For example, early indicators of relationship success are especially important for individuals high in destiny beliefs (Knee, 1998; Franiuk, Cohen, & Pomerantz, 2002; Le, Dove, Agnew, Korn, & Mutso, 2010). Perhaps more self-focused, direct affectionate actions such as verbal love proclamations may be easier to interpret as affectionate, and thus register as signs of relationship success at an earlier stage of the relationship. In this way, individuals with greater destiny beliefs may be inclined to prefer more explicit, direct forms of affection. Individuals high in growth beliefs, however, have been found to use more active

coping strategies when faced with relationship difficulties (Knee, 1998) and are more willing to sacrifice for their partner (Cobb, DeWall, Lambert, & Fincham, 2013). Perhaps then, more other-directed forms of affection such as sharing tasks together may appeal to these individuals due to the inherent recognition of growth and accommodation within the relationship. In this way, individuals with more growth beliefs may be more inclined to prefer less direct, and more indirect affectionate behaviors.

One other set of romantic relationship beliefs often considered in the literature is an individual's romanticism beliefs. Romanticism describes an orientation towards love built from constructs such as love at first sight, believing in one and only perfect partner for somebody (One and Only), believing one's partner is perfect in every way (Idealization), and believing that perfect love can and will overcome any relationship turmoil (Love will find a way) (Sprecher & Metts, 1989). Though often considered as synonymous with destiny beliefs because both belief systems reflect an inherent belief in fate, romanticism also encompasses a component of growth beliefs, with the subscale of items which reflect love overcoming conflict. Perhaps then, rather than considering romanticism as one unidimensional construct, considering the subscales as different relationship beliefs may be more appropriate. Love at first sight, one and only, and idealization seem to be much more associated with destiny beliefs, supporting the fixed and unchanging belief that a perfect relationship will naturally occur. Love finds a way, instead, reflects much more of a problem-solving, growth-oriented mindset, whereby the love between a couple can overcome any challenge or conflict.

Romanticism beliefs are unique in their potential applicability to expressions of affection due to the prevalence in which researchers have studied them cross-culturally. Specifically, the literature is conflicted about whether romanticism beliefs are found at a higher prevalence in

individualistic cultures (Medora, Larson, Hortačsu, & Dave, 2002; Sprecher, Aron, Hatfield, Cortese, Potapova, & Levitzkaya, 1994) or in collectivistic cultures (Bejanyan, Marshall, & Ferenczi, 2014; Sprecher et al., 1994; Sprecher & Toro-Morn, 2002). Because romanticism seems to encapsulate beliefs from both destiny and growth approaches, exploring these belief systems in relation to culture may help to further disentangle the literature.

Though destiny and growth beliefs have yet to be studied as explicitly between cultures, perhaps their shared characteristics with individualism and collectivism may help understand the cultural inconsistencies found in romanticism. Specifically, destiny beliefs may be more prevalent in individualistic societies due to both belief systems focusing on the self rather than accommodating the needs of the other. Conversely, growth beliefs may be more prevalent in collectivistic societies due to both belief systems accommodating the needs of the other before focusing on the needs of the self. Because the subscales that compose romanticism seem to reflect components of both destiny and growth beliefs, perhaps romanticism beliefs appear relatable in both individualistic and collectivistic cultures. That is, because the construct seems built upon two separate belief systems, any given culture could be equally likely to endorse a moderate level of them.

Furthermore, perhaps the shared components of these belief systems may not only help to resolve conflicting literature, but may also lend a hand in predicting different expressions of affection. That is, the focus on the self shared by individualism, destiny, love at fight sight, and one and only beliefs may reflect a tendency to endorse more egocentric, explicit forms of affection such as verbal proclamations of love. In contrast, perhaps the focus on the other or on the relationship shared by collectivism, growth, and love finds a way beliefs may reflect a tendency to endorse more other-directed, indirect forms of expressing affection.

Present Study

Some belief systems, such as individualism and collectivism, are often treated as varying between cultures. That is, these characteristics are often considered to be representative, to some degree, of an entire population within a given culture (Bejanyan et al. 2014; Medora et al., 2002; Sprecher & Toro-Morn, 2002). From this approach, studying two different populations that respectively reflect individualistic and collectivistic beliefs may provide insight into whether these large-scale differences reflect differences in how expressions of affection are conceptualized. Therefore, the first purpose of this study is to explore how expressions of affection look, and moreover, how they may vary across different cultures. Specifically, we may expect cultures that are more individualistic to result in conceptualizations of affection expressions that are more direct, obvious, and inherently less needed of interpretation. Conversely, we may expect cultures that are more collectivistic to result in conceptualizations of affection expressions that are less direct, less obvious, and perhaps reflect more behaviors that inherently benefit both partners rather than focus on an individual benefit.

People's beliefs also vary within larger cultures (Matsumoto, Kudoh, & Takeuchi, 1996; Vandello & Cohen, 1999), however, and therefore studying differences in these beliefs and expressions of affection within any given culture may help to further understand the relationships between these variables. Therefore, the second purpose of this study is to explore how beliefs may relate to different expressions of affection between individuals, and whether these individual differences differ across cultures. Regardless of the specific culture, we may expect people who endorse greater individualistic beliefs, or more destiny, love at first sight, and one and only beliefs to prefer affection expressions that are more direct, obvious, and inherently less needed of interpretation. Conversely, we may expect people that endorse greater collectivistic

beliefs, or more growth and love finds a way beliefs to prefer affection expressions that are less direct, less obvious, and perhaps include more behaviors that inherently benefit both partners rather than focus on an individual benefit.

Method

Participants

We collected responses from 179 Ecuadorian (EC) participants, of which 141 provided valid data and were included in the present study. The results section contains more information about participant selection. Of the 141 EC participants, 77 completed an in-person paper survey and 64 completed an online version of the survey. All participants were volunteers and did not receive monetary compensation. Table 1 displays all demographic information for the sample including age, gender, racial/ethnic identity, highest level of education, whether participants practice a religion, living zone, and relationship status. About half of the sample identified as women and about half identified as men, with participants on average being young adults that were more educated, and less ethnically diverse than the general population of Ecuador (Central Intelligence Agency, 2019a).

We then collected responses from 242 US participants, of which 182 provided valid data and were included in the present study. The results section contains more information about participant selection. Of the 182 US participants, 90 completed the survey through social media snowballing techniques and 92 completed the survey through Amazon's Mechanical Turk (MTurk). All participants who completed the survey through social media were volunteers and received no monetary compensation, and all participants who completed the survey through MTurk received $1.00 as compensation for their responses. Table 1 displays all demographic information for the sample including age, gender, racial/ethnic identity, highest level of

education, whether participants practice a religion, living zone, and relationship status. About half of this sample identified as women and about half identified as men, with participants on average being younger to middle-aged adults, more educated, and less ethnically diverse than the general population of the United States (Central Intelligence Agency, 2019b).

Measures

Participants completed four self-report measures to assess their preferences for expressions of affection, attitudes towards romantic relationships, and cultural beliefs. We administered the original English-language measures with the US sample. To administer these measures in Ecuador, we used Spanish translations of the measures. The Horizontal and Vertical Individual and Collectivism scale (HVIC; Triandis & Gelfand, 1998) was previously translated and published in Spanish (Díaz Rivera, Díaz Loving, & Rivera, 2017), therefore we used this version for the EC sample. We translated the Romantic Beliefs Scale (Sprecher & Metts, 1989), the Implicit Relationship Beliefs Scale (Knee, 1998), and our measure of affection expression preferences into Spanish. The first author, who is proficient in Spanish, began by translating all the English items from the measures into Spanish. She then provided her Spanish versions to four native Spanish-speakers who then back-translated them into English. After receiving their back-translations, she compared their back-translated English versions with the original English versions and made revisions where concepts seemed mismatched. After amending these items, she sent the revised Spanish measures to the third author, a native Ecuadorian, who made minor revisions to the items to ensure that the dialectical nuances of Ecuadorian Spanish were reflected in our versions of the measures. These final Spanish measures can be found in Appendix A.

Affection expression preferences. We developed this self-report measure by adapting two previous scales often used to assess expressions of affection. The first scale we adapted was

the Affectionate Communication Index (ACI) (Floyd & Morman, 1998). The ACI originally asked participants to indicate how often they used 18 specific behaviors to express affection to their partner; we adapted this measure to instead ask participants how important these 18 specific behaviors are to them in their ideal, romantic relationship. We chose to ask participants about importance rather than frequency of the action because importance might reveal greater variability within participant responses and help to reduce the ceiling effect expected in responding to preferences for expressions of affection.

We also adapted Chapman's Five Love Languages assessment (1992). This assessment originally presented readers with two different affectionate behaviors and asked them to choose which of the two behaviors they would prefer for 30 different pairs. After extensively studying the book, we described five different behaviors prototypical of each specific love language. We then used each set of five items to measure each of the five love languages, and again asked participants to rate how important each of the 25 behaviors are to them in their ideal, romantic relationship.

We then combined the 18 items from the adapted ACI and the 25 items from the adapted Love Languages scale to produce a self-report tool, The Affectionate Expression Preferences (AEP) in which participants ranked the importance of 43 different ways of expressing affection. All 43 of these items were ranked on a 7-Point scale anchored at 1 (*Not at all important*), 4 (*Somewhat important*), and 7 (*Extremely important*). Additionally, we asked participants two open-ended questions: "Is there anything else that your partner could do to express affection towards you that is not listed above?" and "What is the best way for your partner to show you affection?" Though we did not use these items for further analyses, we hoped asking these

questions might give participants an option to describe any constructs that we may have missed in our 43 items.

Romantic relationship beliefs. We used two measures to assess participant romantic relationship beliefs: The Implicit Theories of Relationships Scale (ITR: Knee & Petty, 2013) and the Romantic Beliefs Scale (RBS: Sprecher & Metts, 1989). The ITR measures participants' implicit beliefs about romantic relationships. Specifically, the ITR measures destiny beliefs, or the extent to which people believe that love is destined and predetermined, and growth beliefs, the extent to which people believe that love can be built and grown. The scale is composed of two 11-item subscales measuring destiny and growth respectively, creating a total of 22 items. Participants rate each item on a 7-Point scale from 1 (*Strong Disagreement*) to 7 (*Strong Agreement*). All individual items per subscale are averaged together to compute a final destiny (EC α = .882; US α = .898) and growth (EC α = .813; US α = .854) score, respectively. Higher scores on either subscale reflect a stronger attitude towards that belief.

The RBS (Sprecher & Metts, 1989) measures participants beliefs about romanticism, or the degree to which participants believe in an overly idealistic and romanticized perception of romantic relationships. The scale is composed of 15 items which can be further divided into four subscales: *Love at First Sight* (Q1, 6, & 12), *One and Only* (Q3, 4, & 10), *Idealization* (Q7, 8, & 14), and *Love Finds a Way* (Q2, 5, 9, 11, 13, & 15). Participants rate each of the 15 items on a 7-Point scale from 1 (*Strong Disagreement*) to 7 (*Strong Agreement*). We chose to treat each of these subscales as its own variable, and therefore we averaged together all items per subscale to compute a final love at first sight (EC α = .631, US α = .668), one and only (EC α = .744, US α = .757), idealization (EC α = .767, US α = .830), and love finds a way (EC α = .820, US α = .808)

score, respectively. Higher scores on any of these subscales reflect a stronger attitude towards that belief.

Cultural beliefs. We used two separate variables to measure cultural beliefs. We used country of residence as a between-subjects measure of culture, whereby participants from Ecuador reflect one specific cultural group and participants from the United States reflect another specific cultural group. To measure within-group differences in culture, we administered Triandis and Gelfand's (1998) measure of horizontal and vertical individualism and collectivism (HVIC). This scale is composed of four separate 4-item subscales intended to measure four different types of cultural beliefs. Vertical individualism reflects the most individualistic of the beliefs, whereas horizontal collectivism reflects the most collectivistic of the beliefs. Vertical collectivism and horizontal individualism reflect cultural beliefs that encompass components of both cultural dimensions. Participants responded to each of the 16 items on a 7-Point scale from 1 (*Strong Disagreement*) to 7 (*Strong Agreement*). We then averaged the four responses per subscale to create a score for each of the respective cultural orientations: vertical individualism (EC α = .773 US α = .771), horizontal individualism (EC α = .690, US α = .829), vertical collectivism (EC α = .796, US α = .780), and horizontal collectivism (EC α = .685, US α = .762), respectively. Higher scores on any of these subscales reflect a stronger belief towards that cultural orientation.

Procedure

After obtaining Institutional Review Board Approval, we conducted data collection in two phases. Phase I took place in Ecuador, recruiting participants from an assortment of cities in Ecuador, including Quito, Mindo, Baños, Atacames, Otavalo, Cuenca, Isabela Island, and Santa Cruz Island. The first author employed a variety of methods to recruit participants for the study.

Her predominant recruitment method involved approaching potential participants in public spaces and describing the study and her research intentions. If a participant was interested, she would give them a consent form to read, and give them access to the survey in their preferred medium. Some participants chose to complete the survey online and were given a link at which they could log on and complete the survey. Other participants chose to complete the paper survey. Furthermore, additional participants were recruited via friends and family of an Ecuadorian university sports team utilizing word-of-mouth snowballing techniques or sharing through social media sites. Additionally, the third author shared the online link through staff and administrators at Universidad del Azuay in Cuenca, Ecuador. The survey took participants on average 15-20 minutes to complete, and participants were then debriefed and thanked for their time.

Phase II of data collection took place in the United States, using two separate sampling techniques. To parallel the recruitment methods used in Ecuador, we recruited the first half of the United States (US) sample also using snowballing techniques, specifically the use of link sharing across social media websites. The participants who responded to this link via social media were volunteers and did not receive monetary compensation. In order to make the US sample more demographically equivalent to the EC sample, we recruited the remaining US participants using MTurk. The original snowball sample of US participants had a much higher education level than the EC sample, and the proportion of people in relationships was much higher as well. To control for these differences, we restricted the mTurk sample to participants who had not obtained a Bachelor's degree and people who whose legal marital status was single. These restrictions aimed to create more demographically similar samples between the EC and US samples. All people from either sampling method who chose to participate then clicked on the link and

electronically consented to participate before completing the survey on average in about 15-20 minutes. After completing the survey, participants were then debriefed and thanked for their time.

Results

Data Cleaning

Before conducting our research analyses, we performed a series of descriptive analyses to ensure the validity of our data. We removed 27 EC and 21 US participants who completed the demographics form but did not complete any of the survey items; these participants did not differ in any systematic way from participants who remained in the samples. We then examined the frequency distribution for completion rate per participant, noticing a natural break in the data at 85%. Thus, we removed the 7 EC participants who did not meet this threshold. Nine EC and 10 US participants only completed the AEP measure, therefore we only included their data in the analyses exploring the factor structure of affection expression preferences and not in the remainder of the analyses. For the remaining measures (RBS, ITR, and HVIC), no remaining participants missed more than three total items, and because individual item-level information is less relevant to these analyses, we retained all remaining participants in the samples. Lastly, we examined the frequency distribution for the time taken to complete the on-line survey in both samples and noticed a natural break in the data at six minutes. Thus, we removed the two EC and 27 US participants who completed the survey in less time. The final sample was comprised of 141 EC and 182 US participants; Table 2 shows the means and standard deviations for all study variables.

Psychometric Analyses

Affection expression preferences. To explore the factor structure of affection expression preferences, we conducted separate exploratory factor analyses (EFA) for the EC and US

samples. Because missing data can severely impact the results of EFAs, we chose to use predictive mean matching (PMM) to handle missing data. PMM is a multiple imputation procedure which estimates missing values by locating a pool of similar cases and selecting a value that most closely aligns with trends displayed in this sub-sample. Literature suggests that this method of handling missing data often results in less statistical bias (McNeish, 2017; Peeters, Zondervan-Zwijnenburg, Vink, & van de Schoot, 2015) and more accurately extracts the correct number of factors within a set of data than other approaches such as mean replacement or listwise deletion (McNeish, 2017). For these reasons, we used PMM to estimate the missing data within the AEP subset of questions. Table 3 displays item-level information including means, standard deviations, skewness, and kurtosis for all items in both the EC and US samples.

Ecuadorian affection preferences. We included all 43 AEP items in an EFA using principal axis factoring and a promax rotation to allow for correlated factors. Although eight factors emerged with eigenvalues greater than 1, the scree plot clearly supported a 2-factor structure. Therefore, we forced a 2-factor solution. One by one, we removed cross-loading items and items with low pattern coefficients until the pattern coefficients revealed a clear, simple structure. The final analysis resulted in an overall KMO measure of sampling adequacy of .906 with all items loading at least .60 on their primary factor and no greater than .17 on any other factor. Table 4 displays the pattern and structure coefficients of the final structure. Together, these two factors explained 57.78% of the variance in the items. We define Factor 1 as *Amoroso*, encapsulating 12 items such as “Hugs me,” “Says I care about you,” and other more physical and verbal ways of expressing affection. Factor 2 we define as *Regalitos*, composed of six items such as “Gives me gifts on occasion for no special reason,” “Always knows just what gift will make me happy,” and other items that express interest in receiving both tangible and practical gifts.

These two factors are positively correlated, $r = .59$. Table 5 shows the item-total correlations for each item with its respective factor, as well as the mean, standard deviation, skewness, kurtosis, and Cronbach's alpha for each measured factor.

American affection preferences. We followed the same procedures to analyze the AEP items in the US sample, including all 43 items in an EFA using principal axis factoring with a promax rotation. Four factors emerged with eigenvalues greater than 1 and the scree plot also suggested four factors. Therefore, we forced a 4-factor extraction and, one by one, removed cross-loading items and items with low pattern coefficients until the analyses revealed a clear solution. The final analysis resulted in an overall KMO measure of sampling adequacy of .899 with all items loading at least .60 on their primary factor and no greater than .20 on any other factor. Table 6 displays pattern and structure coefficients of the final solution. Together, these four factors explained 66.38% of the variance in the items. We define Factor 1 as *Physical Affection*, encapsulating 9 items such as "Puts their arm around me," "Kisses me on the lips," and other physical acts of expressing affection. Factor 2 we define as *Verbal Affection*, composed of 7 items such as "Says how important I am to them," "Gives me compliments," and other items which encapsulate verbal acknowledgement. We define Factor 3 as *Gift-Giving*, encapsulating 3 items which reflect receiving gifts, and Factor 4 as *Friend-Based Affection*, composed of 2 items which reflect a friend-based intimacy. Table 7 displays the correlations between the factors, and Table 8 displays the item-total correlations for each item with its respective factor, as well as the mean, standard deviation, skewness, kurtosis, and Cronbach's alpha for each measured factor.

Romantic relationship beliefs.

Implicit beliefs. Though Knee's (1998) original ITR scale used four items per subscale to respectively measure destiny and growth, Knee and Petty expanded the scale in 2013 to include

11 items per subscale hoping to capture additional components of each belief system. To determine which approach more appropriately fit the data, we used confirmatory factor analyses (CFA) to compare the 22-item and 8-item models. We conducted these analyses separately for the EC (N = 131) and US (N = 172) samples. In all analyses we used maximum likelihood to estimate all parameters and employed a variety of fit indices: the Chi-Square test, the Root Mean Square Error of Approximation (RMSEA), the Standardized Root Mean Residual (SRMR), and the Comparative Fit Index (CFI). The Chi-Square test examines the null hypothesis that the data did not fit the hypothesized model, with statistically significant Chi-Square values indicating poor model fit (Kline, 2011). RMSEA is a commonly-used measure of fit that rewards parsimonious models, with values of .01, .05, and .08 reflecting excellent, good, and poor fit, respectively (MacCallum, Browne, & Sugawara, 1996). The SRMR is a measure of absolute fit, with values less than .08 indicating a good fit, and the CFI measures incremental fit, with values of .95 or larger indicating good fit (Hu & Bentler, 1999).

Table 9 displays final fit indices for both the 22-item and 8-item models. The X^2, RMSEA, CFI, and SRMR all revealed that the 22-item model poorly fit in both the EC and US samples. Though the analyses from the 8-item model revealed better comparative fit than the 22-item model for both the EC and US samples, the X^2, RMSEA, and CFI still indicated poor absolute fit for the EC sample. Furthermore, the Cronbach's alphas for both the EC and US samples were marginal for the 8-item model *(*e.g. Destin*y* EC α = .632; US α = .761 and growth EC α = .670; US α = .762). Therefore, we chose to use the 22-item model in further analyses.

Romanticism. Furthermore, we also tested two different models of romanticism beliefs due to the conflicting findings in the literature. When originally designing the RBS, Sprecher and Metts (1989) described romanticism as composed of four components: love at first sight (items

1, 6, and 12), one and only (items 3, 4, and 10), idealization (items 7, 8, and 14), and love finds a way (items 2, 5, 9, 11, 13, and 15). Though many researchers often treat romanticism as one unidimensional set of beliefs (see Bejanyan et al., 2014; Sprecher et al., 1994; Sprecher & Toro-Morn, 2002), each of the four subscales seem to describe a uniquely different set of beliefs. Therefore, we compared a unidimensional and 4-factor model of romanticism separately for the EC (N = 128) and US (N = 172) samples. In the unidimensional model, all measured items loaded onto one congeneric factor. In the 4-factor model, we created four correlated congeneric factors using the items from their respective subscales. To compare the models, we used the same analytic approaches as before. In all four analyses, Item 1, "I need to know someone for a period of time before I fall in love with him or her," did not relate meaningfully to other items in the scale; therefore, we removed this item and re-ran the analyses with the remaining 14 items.

Table 10 displays the results of these analyses. For both the EC and US samples, the X^2, RMSEA, CFI, and SRMR all indicated that the unidimensional model poorly fit the data. In the 4-factor model, though the absolute fit in the EC sample was still poor, the X^2, RMSEA, CFI, and SRMR were stronger than in the unidimensional model. In the US sample, although the X^2 was still statistically significant, the RMSEA, CFI, and SRMR all indicated excellent fit. As such, we chose to use the 4-factor RBS model in further analyses.

Within measure of culture. We also conducted a CFA using the same analytic approach to explore how well the data in the EC and US samples fit Triandis and Gelfand's (1998) 4-Factor model of culture. This model included four correlated congeneric factors each measuring the respective dimension of culture specified by Triandis and Gelfand: vertical individualism, horizontal individualism, vertical collectivism, and horizontal collectivism. Table 11 displays the results of this analyses for both samples. The X^2, RMSEA, and CFI all revealed poor fit for the

data in both the EC and US samples; however, because of theoretical justification and acceptable Cronbach's alphas, we retained this measure of culture for further analyses.

Measurement invariance. When researchers study psychological phenomena cross-culturally, they run the risk of overestimating the extent to which equivalent constructs may exist across cultures (Chen, 2008). That is, when a construct is developed and understood in the context of one culture, assuming it exists in other cultures creates an ethnocentric bias. Many times constructs which exist in one culture may not exist in another, and therefore ensuring similar constructs across cultures is essential before conducting any cross-cultural comparisons. Therefore in the present study, we sought out to achieve measurement invariance before attempting to make any direct cross-cultural comparisons.

Though the CFAs did help to guide the most appropriate conceptualizations of the measured variables for further analyses, the EC data revealed poor absolute fit across all of the belief measures. Because the of the poor fit for all of the models in the EC sample, any attempt to test for measurement invariance across samples would also indicate poor fit. For this reason, we did not perform any comparative analyses between the EC and US samples on any of the measured variables. Therefore, although we use the same items to measure the cultural and romantic relationship belief variables in both the EC and US samples, they may be measuring different things, and should be considered only in the context of their respective cultures.

Correlational Analyses

To explore how each individual belief related to different affection expression preferences, we calculated correlations between the study variables for both the EC and US samples. For both samples, these analyses included a participant's vertical individualism, horizontal individualism, vertical collectivism, and horizontal collectivism scores, and their

destiny, love at first sight, one and only, idealization, love finds a way, and growth scores. For the EC sample, these analyses also included participants aggregated scores for the *Amoroso* and *Regalitos* affection expression factors. For the US sample, these analyses also included participants aggregated scores for the *Physical Affection*, *Verbal Affection*, *Gift-Giving*, and *Friend-Based* affection expression factors. Because of the large number of correlations, and the related increase to the study-wise error rate, we chose to eschew null hypothesis statistical significance testing and to instead use confidence intervals to guide our interpretations (see Cumming, 2012 for more information about). To do this, we identified correlations wherein the lower bound of a 95% confidence interval would be considered at least small (r = .1) by Cohen's correlation interpretation guidelines (Cohen, 1977). In the EC sample, this resulted in a correlation of .27, and in the US, a correlation of .24. We then used these confidence intervals to guide our interpretations for the likely range of values supported by each correlation estimate in the present study. In this way, rather than treating the sample correlations as inherently reflective of the population, we instead drew insights based on the likelihood of these effects being observed in a broader population.

Ecuador. Table 12 displays the full correlation matrix for the EC sample. Beginning with cultural beliefs, a likely small positive correlation emerged between vertical individualism and Regalitos. This suggests that EC participants who indicate higher beliefs in individualism also have a higher preference for receiving gifts from a romantic partner. Conversely, small to moderate positive correlations emerged between both vertical and horizontal collectivism and Amoroso. These relations suggest that EC participants higher in collectivism, regardless of whether it is vertical or horizontal, have a higher preference for receiving affection in ways that are verbal and physical. In this way, our original hypotheses are somewhat supported as more

individualistic and destiny beliefs are related to one type of affection expression, and more collectivistic and growth beliefs re related to another type of affection expression. Although these types of affection expressions do not fit our hypothesized direct and indirect types, they reflect consistent differences in the way they relate to different beliefs.

When next considering how relationship beliefs relate with affection expression preferences, a small to moderate positive correlation emerged between destiny beliefs and regalitos. This suggests that EC participants who believe in a more predetermined, fate approach to relationships have a higher preference for receiving gifts from a romantic partner. Amoroso, however, related much more to love finds a way, idealization, and growth, revealing moderate to strong positive correlations with each of these relationship beliefs. These relations suggest that EC participants who believe in a more problem-solving, partner-focused, growing together approach to relationships have a higher preference for verbal and physical affection. Furthermore, though idealization and growth related to amoroso more so than to regalitos, they both emerged with likely small, positive relationships with regalitos. This suggests that perhaps EC participants who believe more in idealization and growth, specifically, have a greater preference for affectionate expressions overall.

United States. Table 13 displays the full correlation matrix for the US sample. Beginning again with cultural beliefs, no notable correlations emerged between either of the individualism dimensions with any of the four types of affection expressions. This lack of correlation suggests that US participants high in individualism did not indicate any strong preferences for any specific expression of affection. Horizontal collectivism, however, emerged as relating to all but the gift-giving behavior, revealing a small positive correlation with friend-based affection, a small to moderate positive correlation with verbal affection, and a moderate to large positive correlation

with physical affection. These findings suggest that US participants with the most collectivistic of the cultural beliefs, in general, display a greater preference for all types of affectionate expressions. These trends are not consistent with our hypotheses, as different beliefs did not directly relate to differences in expressions of affection.

When next considering how relationship beliefs relate with affection expression preferences, no notable correlations emerged between destiny beliefs, love at first sight, or one and only beliefs with any of the four types of expressions of affection. The lack of these correlations suggests that the US participants with a more predetermined, fate approach to relationships did not indicate any strong preferences for any specific affection expression. Idealization emerged as related to two of the expressions of affection, with likely small positive correlations emerging with physical affection and gift-giving. This suggests that US participants who idealize their partner also have a greater preference for physical affection and receiving gifts. Love finds a way also related to two different expressions of affection, with a likely small positive correlation emerging with friend-based affection, and a small to moderate positive correlation emerging with physical affection. This suggests that US participants who believe that the love between a couple can overcome challenges and conflicts, prefer friend-based and physical forms of affection. Finally, growth beliefs emerged as related to all four types of expressions of affection, with small to moderate positive correlations with friend-based affection, gift-giving, verbal affection, and physical affection. This suggests that US participants with higher levels of growth beliefs, in general, display a greater preference for affectionate expressions.

Path Analyses

To further explore how cultural beliefs, romantic relationship beliefs, and affection expression preferences relate to one another, we used path analyses to create separate mediation models for the EC and US samples. For each respective sample, we used SPSS Amos Graphics to model all potential paths between all variables. In each model, we used vertical individualism, horizontal individualism, vertical collectivism, and horizontal collectivism to predict the six relationship beliefs: destiny, love at first sight, one and only, idealization, love finds a way, and growth. In the EC sample, we used all 10 of these variables to predict both amoroso and regalitos; in the US sample, we used all 10 of these variables to predict physical affection, verbal affection, gift-giving, and friend-based affection. We allowed all of the variables at the same level to correlate with one another. In this way, we created fully-saturated mediational models, in which all possible paths were freed to be estimated. We then simplified these models by identifying the path with the lowest critical ratio, removing it, and re-running the resulting model. If any variable lost all paths predicting at least one of the affection expression outcome variables, we removed that individual variable from the analysis and continued to remove the weakest paths until the Chi-Square became statistically significant. Once we reached this point, we then redrew the most recently removed path and retained the remaining model. This resulted in the simplest model that still adequately described the relationships between the variables. This model, though parsimonious in describing the present sample, was unable to be confirmed with a second confirmatory sample as is typical in these analyses. Due to the lack of access to a secondary sample in either country, however, the results reported here are subject to sampling error and generalizability may be lessened.

Ecuador. Figure 1 shows the final model from the EC sample. This final model retained only one of the original four cultural beliefs: vertical collectivism, the cultural component reflecting an independent self, high social hierarchy, and low freedom. This belief positively predicted growth beliefs, reflecting the problem-solving, developing together belief system about romantic relationships. Growth beliefs positively predicted both types of affection expressions: amoroso and regalitos. Though these data are cross-sectional in nature, this model is consistent with a mediation model, suggesting that perhaps growth beliefs may mediate the relationship between vertical collectivism and any type of affection expression preference. This model revealed excellent fit, $X^2 = 1.89$, $df = 2$, $p = .388$, RMSEA = .00, CFI = 1.00, and SRMR = .0242, suggesting this relationship between the variables is the most parsimonious and efficient way to predict preferences for expressions of affection. Specifically, for EC participants, perhaps growth beliefs are the most important in predicting a preference for expressions of affection in general, and no specific cultural or romantic relationship belief is as important in differentiating between the different types of affection.

United States. Figure 2 shows the final model from the US sample, which revealed excellent fit, $X^2 = 20.02$, $df = 13$, $p = .095$, RMSEA = .056, CFI = 0.977, and SRMR = .0704. Similar to the EC model, we removed both individualism variables from the model as their paths did not strongly relate to any of the romantic beliefs or affection expression preferences. We retained both dimensions of collectivism, however, which uniquely related to different relationship beliefs and preferences for expressions of affection. Vertical collectivism positively predicted two components of romanticism: idealization, and love finds a way. However, idealization then predicted gift-giving whereas love finds a way predicted physical touch, highlighting how different components of romanticism may be relating differently to preferences

for affection expressions. This model is also consistent with a mediation model, in that different components of romanticism may mediate the relationship between vertical collectivism and different affection expression preferences. Horizontal collectivism, conversely, did not predict any of the romantic relationship beliefs; we removed all these paths from the model. Instead, horizontal collectivism directly predicted physical affection, verbal affection, and friend-based affection, suggesting that this cultural belief system may be more directly related to these affection expression preferences and may not facilitate specific romantic beliefs. That is, specifically for US participants, perhaps a more collectivistic belief system directly predicts a preference for more expressions of affection in general. Somewhat less collectivistic beliefs, however, seem to predict specific romanticism beliefs that then relate differently to either gift-giving of physically affectionate behavior.

Discussion

The first purpose of this study was to explore the construct of affection expression, and to examine its factor structure across cultures. Our results suggested that one conceptualization of affection expressions might not be consistent across all cultures. Instead, we found differences in the ways that Ecuadorians and Americans tended to group affection expressions. In Ecuador, two different types of affection expressions emerged: *Amoroso,* composed of physical touch and verbal proclamations, and *Regalitos,* composed of gift-giving behaviors. In the United States, however, four different types of affection expressions emerged: *Physical Touch, Verbal Affection, Gift-Giving,* and *Friend-Based Affection,* composed of items reflecting friendship acknowledgement between partners.

Neither the two affection expression factors in Ecuador nor the four affection expression factors in the United States reflected the previous conceptualizations of affection expression

referenced in the literature. The emergence of the Amoroso factor in Ecuador uniquely contradicted all previous conceptualizations of expressions of affection (e.g., Chapman, 1992; Floyd and Morman, 1998; Gareis & Wilkins, 2011; Hoxha & Hatala, 2012; Wilkins & Gareis, 2006). Specifically, all of these conceptualizations describe verbal affection as being distinct from any other form of affection. Instead, this factor combines verbal affection with physical types of affection such as hugging and kissing, suggesting that verbal and physical affection are thought of as one single dimension of affection expression in Ecuador.

In the United States, the data instead suggest four different types of expressions of affection. Two of these factors are consistent with Floyd and Morman's (1998) conceptualization of affection expression, specifically Direct Verbal and the Direct Nonverbal affection. These types of affection are also consistent with Chapman's (1992) Five Love Languages, in addition to the Gift-Giving factor which also emerged in the United States. Friend-Based affection, however, uniquely emerged as the fourth type of affection expression in the United States. Friend-Based affection may seem to be reflective of Floyd and Morman's (1998) Supportive Affection factor; however, none of the items from the original Supportive factor remained in the US model. The two remaining items creating this factor, "Says I am one of their best friends," and "Says I am a good friend," were originally part of the Direct, Verbal Affection factor described by Floyd and Morman. The fact that they emerge as their own separate factor highlights how the friendship component of a romantic relationship may be a unique form of expressing affection different from other verbal proclamations. In some of the qualitative responses where participants described any other behaviors that their partner could do to express affection, many participants listed things such as "Listens to me," "Supports me," "Encourages me," and "Is honest with me." These responses reflect behaviors one might expect out of a

friendship, further supporting the notion that friendship may be a distinct way that people express affection within their relationships.

When comparing affection expression conceptualizations across cultures, some similarities emerged across both samples. The Gift-Giving type of affection, for example, emerged as a distinct component in both cultures. Perhaps this occurred due to the prevalence of multiple items which included gift-giving, or, perhaps this occurred because of some conceptual consistency across both cultures in gift-giving behaviors. Additionally, the items that originally addressed more supportive behaviors such as spending uninterrupted time together or helping with chores were all removed from the final model in both the EC and US samples. As we had originally hypothesized, we expected a collectivistic culture such as Ecuador to exhibit more supportive and indirect types of affection expressions, as Ecuador has been described as the second most collectivistic culture in the world (Hofstede, 2001; Hofstede, 2010). Instead, supportive behaviors were removed from the model in Ecuador much like we expected for the United States, suggesting more similarities between these two samples.

Perhaps similar communication styles between Ecuador and the US may explain the consistency across the remaining items in both samples. Latin America is often described as a high-context culture, that is, one which inherently relies on context to interpret communicative behaviors (Hall, 1977). This is often suggested due to Latin America being collectivistic, and collectivistic communities often being identified as high-context cultures (Martin & Nakayama, 2013). Campos and Kim (2017) instead suggest that Latin American communities value direct, open communication, thereby implying that Latin American communities are instead more low-context than high-context, and more similar to the United States in communication styles. Furthermore, Oyserman et al. (2002) found that Latin American communities display the

smallest difference in individualism tendencies compared to the United States, despite having the second largest difference in collectivism tendencies. Perhaps then the consistency of more direct, low-context affection expressions remaining in both models has more to do with the high levels of individualism in both cultures rather than their differences in collectivism.

Furthermore, participants in both samples used their qualitative responses to list a variety of behaviors that could be used to express affection that were not represented in the original 43 items (Appendix B displays participants' qualitative responses). Perhaps if more of these behaviors were listed in the original set of items, the factor analyses would have potentially extracted other factors which could not be accounted for by the items included in our analyses. Future researchers should consider using more of the items described by participants in the qualitative responses, or begin with iterations of free-response questions before narrowing down items to use in an EFA much like Floyd and Morman (1998).

In addition to the similarities emerging across the EC and US data, we also found considerable differences between the two cultures. Specifically, verbal and physical affection behaviors extracted as one factor in the EC sample, but emerged as two distinct factors in the US sample. This suggests that people in Ecuador consider verbal and physical affection expressions as part of the same expression tendency whereas people in the United States consider them as different ways of expressing affection. Additionally, Friend-Based affection emerged in the US as a distinct type of affection expression whereas the friend-based items in Ecuador were removed from the final model. This difference suggests that perhaps Friend-Based ways of expressing affection are thought of as a distinct way of expressing affection in the United States, whereas friendship is less inherently related to the expression of affection in Ecuador. Therefore, despite the EC and US samples preferring more direct, explicit affection expressions overall, the

differences in how these expressions factored suggests that differences exist across cultures in how people conceptualize expressions of affection.

The second purpose of this study was to investigate some of the underlying belief systems that might relate to why people prefer different types of affection expressions. We anticipated that people with more individualistic beliefs, destiny beliefs, love at first sight beliefs, and one and only beliefs might prefer the same type of affection expressions, perhaps expressions more obvious and direct such as verbal proclamations. Conversely, we anticipated that people with more collectivistic beliefs, more growth beliefs, or more love will find a way beliefs might prefer the same type of affection expression, instead perhaps expressions more supportive and indirect.

In Ecuador, the data mostly supported this hypothesis. The correlational analyses revealed notable correlations between vertical individualism and destiny beliefs with the Regalitos factor of expressing affection. Though Regalitos was not reflective of the verbal affection we had anticipated may be related to these types of beliefs, the gift-giving behavior also reflects another form of affection expression which is inherently very direct. Similarly, the correlational analyses also revealed notable correlations between horizontal collectivism and growth beliefs with the Amoroso factor of expressing affection. Though Amoroso was not entirely reflective of the indirect, partner-focused behaviors we had anticipated may be related to these types of beliefs, the physical affection components are reflective of the nonverbal affection typically described as more common in collectivistic cultures (Gareis & Wilkins, 2011; Hoxha & Hatala, 2012; Wilkins & Gareis 2006). Moreover, the fact that both horizontal collectivism and growth beliefs related to the same expressions of affection suggests that some shared component

of these belief systems, perhaps the inherent focus on the other, may be reflected in this type of affection expression.

Moreover, the EC path analyses further revealed a model consistent with mediation, suggesting that growth beliefs may mediate the relationship between vertical collectivism and both types of expressions of affection in Ecuador. Though the paths revealed a stronger relationship with Amoroso, the fact that growth beliefs predict both of these affection expressions may suggest that growth beliefs relate to an overall preference for expressions of affection beyond any specific type. That is, perhaps people in Ecuador who endorse higher levels of growth beliefs prefer expressions of affection in general more so than Ecuadorians who endorse lower levels of growth beliefs.

In the US data, however, we did not see the same obvious pattern between beliefs and affection expressions as we did in the EC data. Unexpectedly, no notable correlations emerged between destiny beliefs, individualism beliefs, or any of the destiny-related romanticism beliefs with any of the expressions of affection. When considered in the path analyses, however, idealization beliefs did predict Gift-Giving affection, similar to the trends found in Ecuador. Love finds a way beliefs, additionally, predicted a preference for Physical affection expressions. Vertical Collectivism, moreover, predicted both of these relationship beliefs, marginally supporting the notion that specific types of romanticism beliefs may be related to more individualistic tendencies. Additionally, growth beliefs were positively related to all types of affection expressions, and horizontal collectivism beliefs were positively related to all types of affection expressions other than Gift-Giving. This pattern does not support the notion that different belief systems may be related to differences in preferences for expressions of affection. Instead, these data suggest that horizontal collectivism beliefs and growth beliefs may be more

indicative of a preference for affection expressions overall. The US Path Analyses further supported this notion, as horizontal collectivism directly predicted Physical affection, Verbal affection, and Friend-Based affection. These trends suggest that perhaps some nuanced differences in affection expressions may exist in individuals with varying levels of different romanticism beliefs. Moreover, people with more collectivistic and growth oriented belief systems may have a greater preference for expressions of affection overall.

Beyond the scope of the present study, some other notable trends emerged in our data which we would like to suggest as avenues for future researchers. The first of these trends emerged in the pattern of relationship beliefs, specifically growth beliefs in both samples. Knee (1998) describes destiny and growth beliefs as two separate constructs which are not mutually exclusive, and thus, researchers continue finding the absence of any correlation, positive or negative, between these two belief systems (Cobb et al., 2013; Franiuk et al., 2002; Knee, 1998; Le, Dove, Agnew, Korn, & Mutso, 2010). In the US sample, we found a similar trend, with these two belief systems resulting in a likely near-zero correlation. In the EC sample, however, these two belief systems resulted in a moderate to large positive correlation. Perhaps this emerging trend may be due to the positivity bias exhibited by people from Latin American communities (see Diener, Scollon, Oishi, Dzokoto, & Suh, 2009) which may potentially inflate scores for all study variables and thereby inflate all correlations. Perhaps, however, the different romantic beliefs are not conceptualized in the same way in Ecuador as they are in the United States, suggesting conceptual differences in the ways that people from both cultures think about romantic relationships. The poor absolute fit of these variables in Ecuador further supports this notion. Perhaps people in Ecuador view constructs such as fate and conflict as more related to each other in the context of romantic relationships than people in the United States do.

We also asked people who indicated currently being in a romantic relationship to report their relationship satisfaction, and included this in the correlational analyses with the other study variables for these participants. In the EC sample, relationship satisfaction had a likely small positive correlation with beliefs in one and only (r = .29), and a small to moderate correlation with the Amoroso expression of affection (r = .32). In the US sample, we instead found a likely small positive correlation between relationship satisfaction and love finds a way beliefs (r = .29) and Friend-Based affection (r = .27). Additionally, in the US sample, we found moderate to large positive correlations between relationship satisfaction and Verbal affection (r = .33) and Physical affection (r = .40). The emergence of different trends between the two cultures in how relationship satisfaction differentially relates to different beliefs and preferences for affection expressions should be explored further. Perhaps the qualitative responses about the best way a partner could express affection may relate to people's endorsements of different expressions of affection, which may then relate to relationship satisfaction. Specifically, perhaps people who can easily identify their preferred form of affection may be able to communicate this more readily with a partner, potentially increasing relationship satisfaction.

Though this study does present unique insights into previously understudied constructs, limitations exist which should be noted in consideration of our findings. Most notably, our sampling techniques in both countries come with potential limitations. In Ecuador, we used snowball and convenience sampling, reducing the truly random likelihood of participants and limiting our ability to generalize to the entire country. In the United States, we used a similar snowballing technique and drew a portion of our sample from MTurk, again limiting the reliability with which we can ensure accurate and representative data (see Lovett, Bajaba, Lovett, & Simmering, 2018 for implications of using MTurk data). The demographics of both samples,

in turn, reported a higher than average representation of the majority racial/ethnic group, as well as a higher than average education rate for both countries. Research suggests that samples which are more educated may not accurately represent the majority of people (see Henrich, Heine, & Norenzayan, 2010), and therefore the samples used in the present study may not be as reflective of all people from either country. Future work should investigate ways to gather a more randomized sample of participants from either country in hopes of collecting a more representative sample.

Another limitation of this study is the biases which may emerge when studying more than one cultural group. Because all of the measures used in this study were originally developed in the United States, even accurate translations into another language can potentially carry biases from the United States in the ways the questions and items were originally developed (Brislin, Lonner, & Thorndike, 1973). Perhaps future studies can instead use more of a bottom-up approach and begin their measurement process in other cultures, allowing free responses items to generate a list of appropriate items to include on a questionnaire of this topic. Another cultural bias of our work resulted in the lack of measurement invariance, making us unable to draw direct comparisons between these two cultures in our interpretation of their results. Though our study focused more on the relationship between variables within each given sample, lacking measurement invariance makes it difficult to suggest that any given cultural belief is related to any given relationship belief in the same way in both cultures (see Chen, 2008). Furthermore, because this sample only included participants from Ecuador and the United States, the vast variation in cultural differences in nuances across other cultures is not accurately reflected here.

We highly encourage future researchers to focus on replicating the affection expression factors before taking these expressions of affection types as definitive constructs, as science is

iterative and one study does not conclusively summarize an entire construct. Though this set of data supports these factors, more studies will help to solidify which factors remain consistent across varying samples. Furthermore, future studies should attempt to investigate how these affection types may look different across cultures which may be comparable with either the United States or Ecuador. Perhaps Canada or the United Kingdom, for example, may reveal similar trends in affection expression preferences as the United States, helping to further define where cultural shifts may reflect affection expression differences. Moreover, a qualitative or behavioral approach would aid greatly in the investigation of this construct, as affection expressions often suffer from a ceiling effect in self-report surveys. Because people often endorse many different affection expressions as being highly likable or important, perhaps more behavioral reports or narrative descriptions might help to reveal the richness in the nuances of expressions of affection.

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Table 1

Demographic Characteristics of EC and US Participants included in Analyses

	Ecuador	United States
Age	*M* = 28.95 (*SD = 12.12*) 50.39% 18 – 24 19.38% 25 – 32 27.71% 33 – 50 8.53% 51 – 84	*M* = 36.22 (*SD* = 15.05) 27.9% 18 – 24 23.46% 25 – 32 28.49% 33 – 50 20.11% 51 - 84
Gender	53% Women 46% Men 1% Another Gender	54% Women 46% Men
Racial/Ethnic Identity	94% Mestizo 3% African-American 1% Indigenous 1% Indigenous/Mestizo 1% White	83% White 7% African-American/Black 5% Multiracial 3% Asian/Pacific Islander 1% LatinX/Hispanic 1% Native American
Highest Level of Education	37% High School or lower 55% University Education 7.86% Postgraduate Education	12% High School or lower 77.9% University Education 9.39% Postgraduate Education
Do you practice a religion?	65% Yes 35% No	42% Yes 58% No
Living Zone	78% Urbana Residencial 8% Urbana Marginal 14% Rural	28% Urban 50% Suburban 22% Rural
Relationship Status	50% Single 2% Casually Dating 11% Enamoramiento (Falling in Love) 13% Noviazgo (Courting/Committed) 4% Free Union 19% Married 1% Other	45% Single 5% Casually Dating 25% Committed Relationship 5% Engaged 20% Married

Note. Demographic questions administered in Ecuador were administered in Spanish and translated into English for comprehension purposes of the reader. Words without direct translations in English have been left in Spanish.

Table 2

Means (and Standard Deviations) for All Study Variables

	Ecuador		United States	
	M (SD)	*N*	*M (SD)*	*N*
Vertical Individualism	4.31 (1.34)	127	3.54 (1.36)	172
Vertical Collectivism	5.82 (1.25)	127	4.63 (1.30)	172
Horizontal Individualism	5.81 (0.92)	127	5.49 (1.18)	172
Horizontal Collectivism	5.72 (1.01)	127	5.13 (1.15)	172
Destiny	4.35 (1.21)	131	3.72 (1.14)	172
Love at First Sight	4.34 (1.59)	128	3.43 (1.52)	172
One & Only	4.34 (1.70)	128	3.42 (1.57)	172
Idealization	4.52 (1.43)	128	3.27 (1.59)	172
Love Finds a Way	5.37 (1.15)	128	4.63 (1.30)	172
Growth	5.35 (0.88)	131	4.97 (0.95)	172

Note. All means are reflective of a 7-point scale. Though we computed these aggregate scores by using the same items in each sample, the lack of measurement invariance discredits any comparison of these scores between the two samples.

Table 3

Item Analysis for Affection Expression Preferences (AEP)

	Ecuador				United States			
	Mean	SD	Skewness	Kurtosis	Mean	SD	Skewness	Kurtosis
AEP1	5.52	1.312	-0.872	0.487	5.28	1.439	-0.536	-0.247
AEP2	4.80	1.670	-0.576	-0.204	4.45	1.899	-0.295	-0.919
AEP3	5.41	1.586	-0.843	-0.097	6.08	1.300	-1.498	1.626
AEP4	5.54	1.461	-0.830	0.350	5.47	1.393	-0.768	0.159
AEP5	4.89	1.487	-0.410	-0.088	4.58	1.542	-0.397	-0.375
AEP6	5.62	1.407	-1.241	1.593	5.00	1.545	-0.436	-0.404
AEP7	5.18	1.560	-0.792	0.184	5.27	1.553	-0.665	-0.270
AEP8	4.02	1.942	-0.377	-0.923	3.68	1.688	0.229	-0.565
AEP9	5.19	1.673	-0.912	0.252	5.18	1.706	-0.725	-0.304
AEP10	5.09	1.630	-0.824	0.152	4.93	1.502	-0.382	-0.454
AEP11	5.65	1.444	-1.320	1.900	4.93	1.718	-0.576	-0.478
AEP12	4.88	1.717	-0.454	-0.517	4.63	1.567	-0.259	-0.453
AEP13	5.21	1.528	-0.694	-0.110	5.71	1.320	-0.861	0.031
AEP14	4.97	1.576	-0.730	0.168	4.48	1.544	-0.110	-0.507
AEP15	5.38	1.491	-0.956	0.688	5.23	1.584	-0.807	0.112
AEP16	4.41	1.860	-0.301	-0.801	4.23	1.642	-0.034	-0.700
AEP17	5.33	1.496	-0.873	0.341	5.47	1.634	-0.845	-0.283
AEP18	3.83	1.836	-0.124	-1.106	3.25	1.728	0.441	-0.564
AEP19	5.52	1.412	-0.962	0.683	5.53	1.385	-0.833	0.027
AEP20	4.97	1.608	-0.780	0.239	5.03	1.499	-0.375	-0.489
AEP21	5.60	1.399	-1.105	1.112	5.60	1.478	-0.912	0.114
AEP22	5.78	1.353	-1.155	1.150	5.90	1.389	-1.451	1.745
AEP23	4.74	1.551	-0.392	-0.288	4.51	1.551	-0.212	-0.441
AEP24	5.53	1.624	-1.160	0.814	5.57	1.776	-1.088	0.184
AEP25	5.83	1.444	-1.517	2.422	5.87	1.543	-1.502	1.595
AEP26	5.91	1.396	-1.459	1.813	5.78	1.463	-1.208	0.799
AEP27	5.40	1.621	-1.025	0.527	5.68	1.321	-0.896	0.487
AEP28	4.43	1.790	-0.392	-0.652	4.32	1.652	-0.262	-0.625
AEP29	5.31	1.384	-0.741	0.262	4.15	1.627	-0.144	-0.677
AEP30	5.28	1.415	-0.963	0.958	4.67	1.702	-0.241	-0.793
AEP31	5.11	1.607	-0.867	0.288	4.76	1.532	-0.220	-0.635
AEP32	5.04	1.616	-0.852	0.359	5.02	1.682	-0.641	-0.441
AEP33	5.45	1.426	-1.082	0.970	5.76	1.323	-0.931	0.147
AEP34	5.12	1.615	-0.767	0.053	5.54	1.586	-0.892	-0.132
AEP35	4.60	1.776	-0.420	-0.616	3.74	1.808	0.122	-0.931
AEP36	4.18	1.842	-0.497	-0.745	3.77	1.759	0.053	-0.965
AEP37	4.04	1.787	-0.184	-0.855	4.37	1.612	-0.185	-0.531
AEP38	3.91	1.889	-0.091	-0.931	2.74	1.853	0.793	-0.523
AEP39	5.50	1.407	-0.951	0.803	5.58	1.581	-1.256	1.020
AEP40	4.09	1.844	-0.221	-0.915	3.10	1.676	0.540	-0.486
AEP41	4.79	1.654	-0.492	-0.302	5.07	1.436	-0.508	-0.016
AEP42	5.40	1.352	-0.840	0.646	5.25	1.487	-0.503	-0.691
AEP43	5.70	1.341	-1.173	1.455	5.626	1.488	-1.119	0.729

Note. Participants responded to all items on a 7-Point scale. See Appendix A for content of all items listed above.

Table 4

Factor Pattern (and Structure) Coefficients of Different Styles of Affection in Ecuador

	Factor	
	Amoroso	Regalitos
	1	2
22. Me abraza *Hugs me*	**.868 (.810)**	-.110 (.350)
21. Me dice, "Tú me importas" *Says I care about you*	**.813 (.760)**	-.101 (.330)
3. Me dice, "Te amo" *Says I love you*	**.778 (.733)**	-.085 (.328)
9. Sostiene mi mano *Holds my hand*	**.762 (.779)**	.034 (.437)
26. Que me consuele cuando estoy triste con un abrazo *Comforts me when I am sad by physically embracing me*	**.702 (.678)**	-.046 (.327)
39. Que cuando exprese afecto, me lo demuestre físicamente (tomarme la mano, con abrazos, etc.) *Physically touches me when expressing their affection for me (hand-holding, hug, etc.)*	**.692 (.711)**	.035 (.402)
17. Que me diga con frecuencia que me ama. *Frequently says I love you*	**.692 (.772)**	.151 (.518)
15. Se sienta cerca de mí *Sits close to me*	**.685 (.701)**	.029 (.392)
19. Me dice lo importante soy para él o ella *Says how important I am to them*	**.685 (.746)**	.115 (.478)
4. Que dé ánimo y apoyo con sus palabras, en voz alta o en forma escrita *Gives me encouragement through verbal or written words*	**.682 (.697)**	.027 (.389)
25. Me besa en los labios *Kisses me on the lips*	**.672 (.622)**	-.096 (.261)
11. Que me demuestre cariño físicamente cuando estamos juntos *Physically touches me frequently when we are around one another*	**.641 (.717)**	.143 (.483)
40. Que me dé regalos de vez en cuando sin un motivo especial *Gives me gifts on occasion for no special reason*	-.026 (.402)	**.808 (.794)**
36. Que me dé algo pequeño de vez en cuando para demostrarme que estaba pensando en mí *Gives me something small on occasion to show they were thinking about me*	-.011 (.371)	**.722 (.716)**
28. Que se esfuerce mucho cuando va a seleccionar un regalo especial para mí *Puts in a lot of thought and effort when selecting a gift for me*	.058 (.436)	**.713 (.744)**
18. Que me de algo material que pueda conservar cuando exprese afecto *Gives me something tangible to keep when expressing their affection for me*	-.061 (.311)	**.702 (.670)**
8. Que siempre sepa cuál es el regalo perfecto para hacerme feliz *Always knows just what gift will make me happy*	.162 (.500)	**.637 (.723)**
37. Que finalice una de mis tareas o quehaceres de vez en cuando *Occasionally completes a task for me that I typically have to do*	-.132 (.198)	**.624 (.554)**

Note. Uses Principal Axis Factoring with a Promax rotation. The English translations below the Spanish items are for ease of the reader, the Spanish items are reflective of items used in the analyses.

Table 5

Item Total Correlations, Means, Standard Deviations, Skewness, and Kurtosis for final items in the EC Affection Expression Preferences Scale

	Factor	
	1	2
	Amoroso	Regalitos
22. Me abraza *Hugs me*	.776	-
21. Me dice, “Tú me importas” *Says I care about you*	.728	-
3. Me dice, “Te amo” *Says I love you*	.704	-
9. Sostiene mi mano *Holds my hand*	.749	-
26. Que me consuele cuando estoy triste con un abrazo *Comforts me when I am sad by physically embracing me*	.650	-
39. Que cuando exprese afecto, me lo demuestre físicamente (tomarme la mano, con abrazos, etc.) *Physically touches me when expressing their affection for me (hand-holding, hug, etc.)*	.692	-
17. Que me diga con frecuencia que me ama. *Frequently says I love you*	.740	-
15. Se sienta cerca de mí *Sits close to me*	.676	-
19. Me dice lo importante soy para él o ella *Says how important I am to them*	.714	-
4. Que dé ánimo y apoyo con sus palabras, en voz alta o en forma escrita *Gives me encouragement through verbal or written words*	.667	-
25. Me besa en los labios *Kisses me on the lips*	.776	-
11. Que me demuestre cariño físicamente cuando estamos juntos *Physically touches me frequently when we are around one another*	.688	-
40. Que me dé regalos de vez en cuando sin un motivo especial *Gives me gifts on occasion for no special reason*	-	.728

	Factor	
	1	2
	Amoroso	Regalitos
36. Que me dé algo pequeño de vez en cuando para demostrarme que estaba pensando en mí *Gives me something small on occasion to show they were thinking about me*	-	.649
28. Que se esfuerce mucho cuando va a seleccionar un regalo especial para mí *Puts in a lot of thought and effort when selecting a gift for me*	-	.668
18. Que me de algo material que pueda conservar cuando exprese afecto *Gives me something tangible to keep when expressing their affection for me*	-	.608
8. Que siempre sepa cuál es el regalo perfecto para hacerme feliz *Always knows just what gift will make me happy*	-	.647
37. Que finalice una de mis tareas o quehaceres de vez en cuando *Occasionally completes a task for me that I typically have to do*	-	.517
Mean	5.61	4.25
Standard Deviation	1.10	1.38
Skewness	-1.125	-0.371
Kurtosis	1.554	-0.349
Reliability	α = .930	α = .851

Note. All means are reflective of a 7-Point scale.

Table 6

Factor Pattern (and Structure) Coefficients of Different Styles of Affection in the United States

	Factor			
	1	2	3	4
	Physical Touch	Verbal Affection	Gift-Giving	Friend-Based
39. Physically touches me when expressing their affection for me (hand-holding, hug, etc.)	**.906 (.831)**	-.062 (.437)	-.063 (.221)	-.053 (.167)
11. Physically touches me frequently when we are around one another	**.840 (.796)**	.010 (.453)	-.023 (.250)	-.144 (.094)
43. Celebrates happy occasions with me by physically touching me (hugging, kissing, etc.)	**.788 (.781)**	.029 (.473)	-.037 (.250)	-.039 (.188)
22. Hugs me	**.774 (.793)**	.011 (.497)	-0.087 (.233)	.152 (.357)
32. Puts their arm around me	**.742 (.713)**	-.123 (.388)	.154 (.354)	-.030 (.170)
30. Maintains casual physical contact while around me (arm around shoulder, hand on arm, etc.)	**.716 (.768)**	.006 (.504)	.139 (.398)	-.004 (.235)
9. Holds my hand	**.692 (.752)**	-.006 (.498)	.088 (.361)	.112 (.327)
25. Kisses me on the lips	**.623 (.695)**	.144 (.501)	-.084 (.221)	.052 (.264)
15. Sits close to me	**.602 (.667)**	.064 (.464)	.021 (.283)	.065 (.266)
10. Frequently uses their words to tell me what they like about me	.132 (.569)	**.784 (.814)**	-.058 (.351)	-.059 (.265)
6. Praises me for my accomplishments	.015 (.461)	**.747 (.747)**	-.011 (.349)	-.009 (.279)
19. Says how important I am to them	.107 (.547)	**.722 (.790)**	-.051 (.350)	.072 (.368)
41. Helps me complete tasks when I am running behind/busy	-.197 (.285)	**.680 (.654)**	.156 (.422)	.048 (.289)
4. Gives me encouragement through verbal or written words	.008 (.415)	**.667 (.676)**	-.081 (.267)	.112 (.350)
20. Gives me compliments	.192 (.568)	**.663 (.744)**	.048 (.399)	-.151 (.169)
31. Outwardly acknowledges when I do something for them	-.078 (.347)	**.655 (.646)**	.095 (.376)	-.020 (.231)
40. Gives me gifts on occasion for no special reason	-.033 (.282)	.028 (.405)	**.837 (.836)**	-.009 (.190)
36. Gives me something small on occasion to show they were thinking about me	-.040 (.305)	.098 (.453)	**.783 (.819)**	.014 (.225)
18. Gives me something tangible to keep when expressing their affection for me	.144 (.392)	-.054 (.406)	**.767 (.796)**	.017 (.218)
7. Says I am a good friend	.056 (.255)	-.026 (.297)	-.046 (.154)	**.810 (.806)**
34. Says I am one of their best friends	-.048 (.215)	.053 (.334)	.074 (.252)	**.717 (.741)**

Note. Uses Principal Axis Factoring with a Promax Rotation.

Table 7

Correlations between US Affection Factors

	Physical Touch	Verbal Affection	Gift-Giving	Friend-Based
Physical Touch	-	-	-	-
Verbal Affection	.606	-	-	-
Gift-Giving	.360	.478	-	-
Friend-Based	.285	.383	.236	-

Table 8

Item Total Correlations, Means, Standard Deviations, Skewness, and Kurtosis for final items in the US Affection Expression Preferences Scale

	Factor			
	1	2	3	4
	Physical Touch	Verbal Affection	Gift-Giving	Friend-Based
39. Physically touches me when expressing their affection for me (hand-holding, hug, etc.)	.778	-	-	-
11. Physically touches me frequently when we are around one another	.746	-	-	-
43. Celebrates happy occasions with me by physically touching me (hugging, kissing, etc.)	.740	-	-	-
22. Hugs me	.750	-	-	-
32. Puts their arm around me	.690	-	-	-
30. Maintains casual physical contact while around me (arm around shoulder, hand on arm, etc.)	.750	-	-	-
9. Holds my hand	.724	-	-	-
25. Kisses me on the lips	.667	-	-	-
15. Sits close to me	.647	-	-	-
10. Frequently uses their words to tell me what they like about me	-	.755	-	-
6. Praises me for my accomplishments	-	.693	-	-
19. Says how important I am to them	-	.738	-	-
41. Helps me complete tasks when I am running behind/busy	-	.604	-	-
4. Gives me encouragement through verbal or written words	-	.630	-	-
20. Gives me compliments	-	.692	-	-
31. Outwardly acknowledges when I do something for them	-	.601	-	-
40. Gives me gifts on occasion for no special reason	-	-	.741	-
36. Gives me something small on occasion to show they were thinking about me	-	-	.749	-
18. Gives me something tangible to keep when expressing their affection for me	-	-	.717	-
7. Says I am a good friend	-	-	-	.594
34. Says I am one of their best friends	-	-	-	.594

	Factor			
	1	2	3	4
	Physical Touch	Verbal Affection	Gift-Giving	Friend-Based
Mean	5.53	5.10	3.37	5.39
Standard Deviation	1.27	1.12	1.52	1.42
Skewness	-0.977	0.622	0.318	-0.754
Kurtosis	0.765	0.405	-0.605	-0.198
Reliability	α = .922	α = .884	α = .860	α = .745

Note. All means are reflective of a 7-Point scale.

Table 9

Fit Indices for the Implicit Theories of Romantic Relationships Models

Model	X^2	*df*	*p*	RMSEA	CFI	SRMR
EC 11 Item per factor *N* = 131	456.54	208	< .001	.0959	.7734	.1062
USA 11 Item per Factor *N*= 172	594.27	208	< .001	.1042	.7695	.0947
EC 4 Items per factor *N* = 131	45.03	19	.0007	.1026	.8612	.0688
USA 4 Items per factor *N* = 172	36.01	19	.0195	.0723	.9540	.0591

Note. Used maximum likelihood estimation. RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, SRMR = Standardized Root Mean Residual.

Table 10

Fit Indices for Romanticism Models (after removing Item 1)

Model	X^2	*df*	*p*	RMSEA	CFI	SRMR
USA Unidimensional *N* = 172	274.37	77	<.0001	.1224	.7957	.0833
EC Unidimensional *N* = 128	255.05	77	<.0001	.1349	.7617	.0880
USA 4-Factor *N* = 172	124.66	71	.0001	.0665	.9445	.0559
EC 4-Factor *N* = 128	184.46	71	<.0001	.1122	.8481	.0748

Note. Used maximum likelihood estimation. RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, SRMR = Standardized Root Mean Residual.

Table 11

Fit Indices for Horizontal Vertical Individualism Collectivism (HVIC) 4-Factor Model of Culture

Model	X^2	*df*	*p*	RMSEA	CFI	SRMR
Ecuador	179.92	98	< .001	.081	.877	.0875
N = 127						
United States	205.61	98	< .001	.080	.885	.0769
N = 172						

Note. Used maximum likelihood estimation. RMSEA = Root Mean Square Error of Approximation, CFI = Comparative Fit Index, SRMR = Standardized Root Mean Residual.

Table 12

Bivariate Correlations between, cultural beliefs, romantic relationship beliefs, and affection preferences for the EC sample

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Vertical Individualism	-											
2. Horizontal Individualism	.25	-										
3. Vertical Collectivism	.20	.15	-									
4. Horizontal Collectivism	.12	.25	**.53**	-								
5. Destiny	**.37**	.19	**.31**	.14	-							
6. Love at First Sight (R1)	**.35**	.13	.17	.20	**.52**	-						
7. One and Only (R2)	.22	.05	**.25**	**.30**	**.38**	**.58**	-					
8. Idealization (R3)	.25	.00	**.35**	**.32**	**.52**	**.59**	**.50**	-				
9. Love Finds a Way (R4)	.19	.10	**.50**	**.41**	**.31**	**.55**	**.50**	**.62**	-			
10. Growth	.22	.17	**.61**	**.47**	**.43**	**.37**	**.42**	**.42**	**.65**	-		
11. Amoroso	.17	-.12	**.37**	**.27**	.20	.14	.16	**.36**	**.41**	**.48**	-	
12. Regalitos	**.27**	.01	.17	.00	**.34**	.22	.14	.26	.12	**.28**	**0.48**	-

Note. N = 127. We created 95% confidence intervals to guide interpretations. Correlations of .27 are considered at least small (LL .10 – UL .45), .45 at least moderate, (LL .31 – UL .65), and.59 as large (LL .50 – UL .85).

Table 13

Bivariate Correlations between, cultural beliefs, romantic relationship beliefs, and affection preferences for the US sample

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Vertical Individualism	-													
2. Horizontal Individualism	.15	-												
3. Vertical Collectivism	.18	.06	-											
4. Horizontal Collectivism	.09	.01	**.35**	-										
5. Destiny	.17	.15	.19	.13	-									
6. Love at First Sight (R1)	**.24**	.04	**.30**	.15	**.53**	-								
7. One and Only (R2)	.15	-.15	**.34**	.16	**.43**	**.52**	-							
8. Idealization (R3)	**.26**	.01	**.24**	.17	**.61**	**.67**	**.50**	-						
9. Love Finds a Way (R4)	.19	.07	**.35**	**.28**	.20	**.49**	**.48**	**.58**	-					
10. Growth	**.25**	.13	**.27**	**.36**	-.20	.05	.07	.05	**.32**					
11. Physical Affection	.10	-.02	.16	**.42**	.10	.18	.17	**.27**	**.37**	**.33**	-			
12. Verbal Affection	.01	.03	.14	**.36**	.10	.08	.07	.09	.16	**.29**	**.58**	-		
13. Gift-Giving	.15	-.02	.19	.16	.16	.20	.16	.23	.13	**.28**	**.37**	**.47**	-	
14. Friend-Based	.09	.05	.14	**.28**	.16	.13	.09	.13	.23	**.24**	**.27**	**.33**	.23	-

Note. *N* = 172. We created 95% confidence intervals to guide interpretations. Correlations of .24 are considered at least small (LL .09 – UL .39), .42 at least moderate (LL .29 – UL .59), and .57 as large (LL .49 – UL .80).

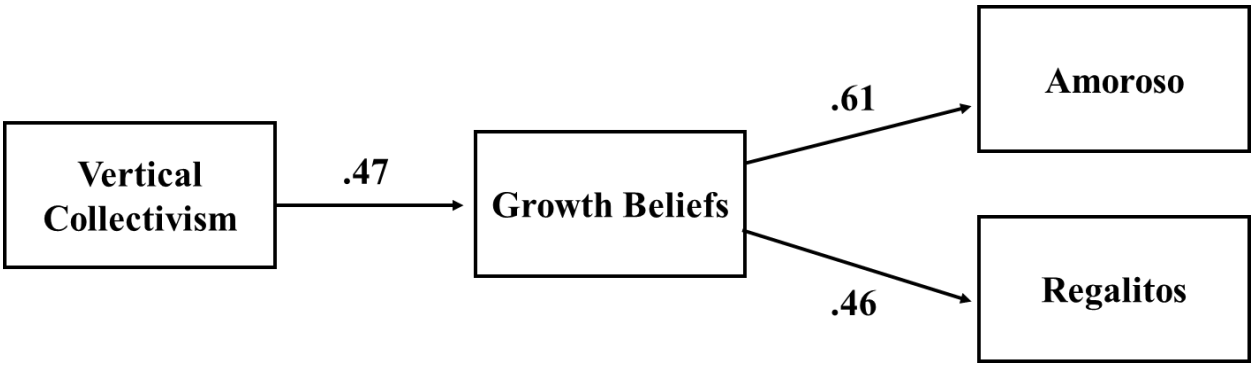

Figure 1. Standardized path coefficients for the remaining model with EC sample. While not shown here, the error terms of Amoroso and Regalitos were allowed to correlate (r = .47).

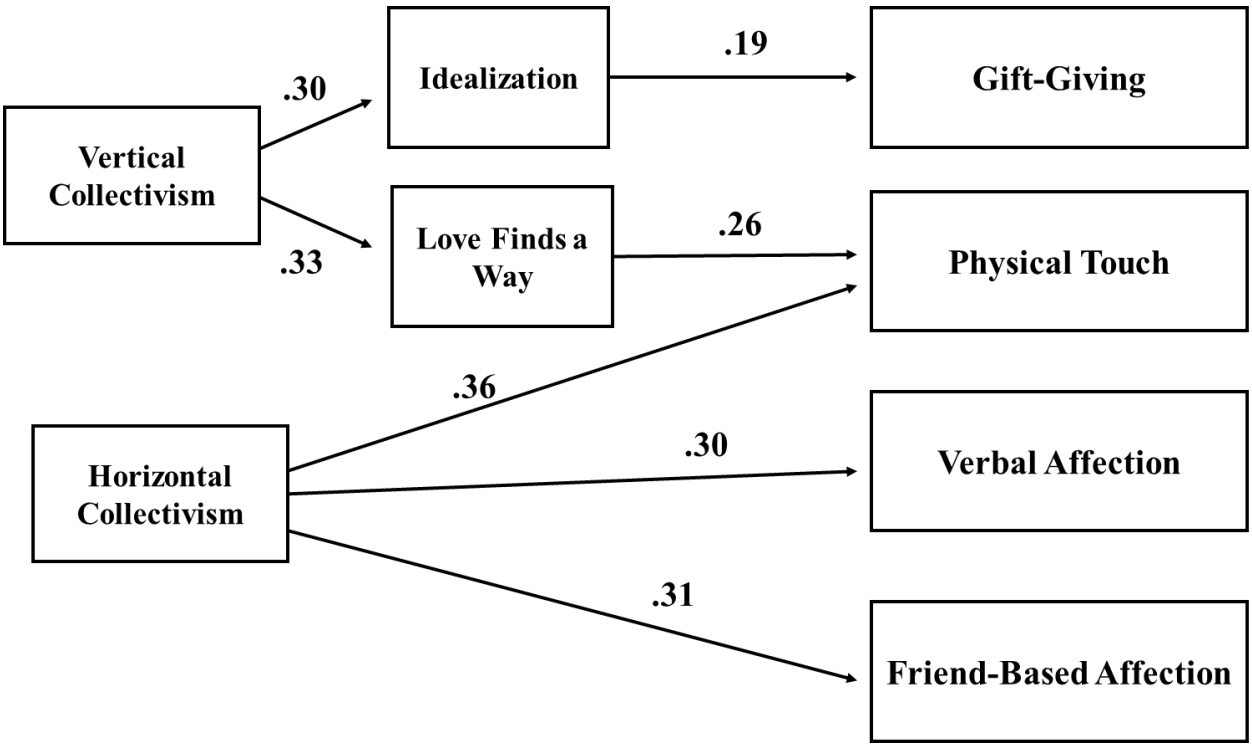

Figure 2. Standardized path coefficients for the remaining model with US sample. While not shown here, the error terms for Idealization and Love Finds a Way were allowed to correlate (r = .95), and the error terms for all affection outcome variables were allowed to correlate. (Physical & Verbal*:* r = .59, Physical & Gift-Giving: r = .50, Physical & Friend-Based: r = .20, Verbal & Gift-Giving: r = .70, Verbal & Friend-Based: r = .35, Gift-Giving & Friend-Based: r = .39)

Appendix A

English Affection Expression Preferences (AEP-E)

Below are the original items used to explore affection expression preferences in the US sample. We encourage researchers to employ all 43 items and continue exploring the factor structure in which these items load rather than solely using the factors suggested by the present study data. Participants are to indicate how important the following behaviors are to them. Item response is on a 7-Point scale, anchored at 1 (*Not at all important*), 4 (*Somewhat Important*), and 7 (*Extremely Important*). Below we have indicated the final remaining items for the four factors in the present study with letters behind each item corresponding to their respective factors (P: Physical Touch, V: Verbal Affection, G: Gift-Giving, and F: Friend-Based Affection).

We would like you to think about your ideal, romantic relationship. This may be a current relationship, this may be a past relationship, or this may be an ideal relationship that you would like to be in. Think specifically about how this partner would interact with you. Listed below are items that may or may not be important to you in the context of a romantic relationship. Please indicate how important each of the following statements is for ***you*** *in your* ***ideal, romantic relationship****.*

It is important that my partner…

1. Helps me with my problems
2. Kisses me on the cheek
3. Says "I love you"
4. Gives me encouragement through verbal or written words ***(V)***
5. Occasionally does something that they don't particularly enjoy in attempts to help me out
6. Praises me for my accomplishments ***(V)***
7. Says I am a good friend ***(F)***
8. Always knows just what gift will make me happy
9. Holds my hand ***(P)***
10. Frequently uses their words to tell me what they like about me ***(V)***
11. Physically touches me frequently when we are around one another ***(P)***
12. Frequently offers to assist me in things that I need to complete
13. Frequently spends uninterrupted time with me, just the two of us
14. Occasionally surprises me by doing more than their expected share of a task (housework, kids, etc.)
15. Sits close to me ***(P)***
16. Sacrifices doing things they enjoy from time to time to spend time with me
17. Frequently says I love you
18. Gives me something tangible to keep when expressing their affection for me ***(G)***
19. Says how important I am to them ***(V)***
20. Gives me compliments ***(V)***
21. Says "I care about you"
22. Hugs me ***(P)***
23. Participates in doing activities with me that they may not always like
24. Acknowledges my birthday
25. Kisses me on the lips ***(P)***
26. Comforts me when I am sad by physically embracing me
27. Shares private information with me
28. Puts in a lot of thought and effort when selecting a gift for me
29. Spends time everyday recollecting the day's events with me
30. Maintains casual physical contact while around me (arm around shoulder, hand on arm, etc.) ***(P)***
31. Outwardly acknowledges when I do something for them ***(V)***
32. Puts their arm around me ***(P)***
33. Takes time out of their day to spend it with me
34. Says I am one of their best friends ***(F)***
35. Gives me a message or backrub
36. Gives me something small on occasion to show they were thinking about me ***(G)***
37. Occasionally completes a task for me that I typically have to do
38. Winks at me
39. Physically touches me when expressing their affection for me (hand-holding, hug, etc.) ***(P)***
40. Gives me gifts on occasion for no special reason ***(G)***
41. Helps me complete tasks when I am running behind/busy ***(V)***
42. Frequently tells me how much I mean to them
43. Celebrates happy occasions with me by physically touching me (hugging, kissing, etc.) ***(P)***

Spanish Affection Expression Preferences (AEP-S)

Below are the original items used to explore affection expression preferences in the EC sample. We encourage researchers to employ all 43 items and continue exploring the factor structure in which these items load rather than solely using the factors suggested by the present study data. Participants are to indicate how important the following behaviors are to them. Item response is on a 7-Point scale, anchored at 1 (*Not tan importante*), 4 (*Poco Importante*), and 7 (*Muy Importante*). Below we have indicated the final remaining items for the two factors in the present study with letters behind each item corresponding to their respective factors (A: Amoroso, R: Regalitos).

Queremos que piense sobre su relación romántica perfecta. Esta podría ser su relación actual, una relación pasada o una relación ideal que le gustaría tener. Piense específicamente sobre cómo este compañero/a interactuaría con usted. A continuación, se muestran los comportamientos que pueden o no ser importantes para usted dentro de una relación romántica. Indique, por favor, qué tan importante es cada una de las siguientes expresiones para una relación romántica perfecta.

Para mí es importante que mi pareja…

1. Me ayuda con mis problemas
2. Me besa en la mejilla
3. Me dice "Te amo" ***(A)***
4. Que dé ánimo y apoyo con sus palabras, en voz alta o en forma escrita ***(A)***
5. Que de vez en cuando haga algo que no le guste mucho con tal de ayudarme
6. Me admira por mis logros
7. Dice que soy un(a) buen(a) amigo/a
8. Que siempre sepa cuál es el regalo perfecto para hacerme feliz ***(R)***
9. Sostiene mi mano ***(A)***
10. Que me diga en voz alta lo que le gusta de mí
11. Que me demuestre cariño físicamente cuando estamos juntos ***(A)***
12. Que me ofrezca frecuentemente ayuda con tareas y quehaceres que yo necesite
13. Que pase tiempo sin interrupciones conmigo, solamente nosotros dos
14. Que me sorprenda de vez en cuando haciendo más de lo cotidiano (quehaceres domésticos, los niños, etc.)
15. Se sienta cerca de mí ***(A)***
16. Que deje de hacer cosas que disfruta de vez en cuando para así pasar tiempo conmigo
17. Que me diga con frecuencia que me ama. ***(A)***
18. Que me de algo material que pueda conservar cuando exprese afecto ***(R)***
19. Me dice lo importante soy para él o ella ***(A)***
20. Me hace halagos
21. Me dice, "Tú me importas" ***(A)***
22. Me abraza ***(A)***
23. Que participe en actividades conmigo aunque no necesariamente le gusten
24. Reconoce mi cumpleaños
25. Me besa en los labios ***(A)***
26. Que me consuele cuando estoy triste con un abrazo ***(A)***
27. Comparte información privada conmigo
28. Que se esfuerce mucho cuando va a seleccionar un regalo especial para mí ***(R)***
29. Que pase tiempo diariamente conmigo, hablando sobre como fué su día
30. Que mantenga contacto físico casual mientras esté conmigo (con su brazo en mi hombro, su mano en mi brazo, etc.)
31. Que demuestre reconocimiento de manera explícita cuando hago algo por él/ella
32. Pone su brazo alrededor de mí
33. Que dedique tiempo de su día para pasarlo conmigo
34. Dice que soy uno de sus mejores amigos/as
35. Me da un masaje
36. Que me dé algo pequeño de vez en cuando para demostrarme que estaba pensando en mí (***R)***
37. Que finalice una de mis tareas o quehaceres de vez en cuando ***(R)***
38. Me guiña el ojo
39. Que cuando exprese afecto, me lo demuestre físicamente (tomarme la mano, con abrazos, etc.) ***(A)***
40. Que me dé regalos de vez en cuando sin un motivo especial ***(R)***
41. Que me ayude a finalizar tareas y quehaceres cuando estoy ocupado/a
42. Que con frecuencia me diga lo importante que soy para él/ella
43. Que celebre ocasiones especiales conmigo con afecto físico (con abrazos, besos, etc.)

Implicit Theories of Relationships- Spanish

Below are the Spanish translations for the items from Knee and Petty's (2013) Implicit Theories of Relationships Scale. All odd numbers are indicative of destiny items, all even numbers are indicative of growth items. The scores from each of the 11 items per subscale should be averaged together for a final score on each respective subscale. Higher scores on either subscale indicate higher endorsement of that belief system.

1 …….. 2 …….. 3 ……... 4 ……... 5 ……... 6 ……..….. 7

En desacuerdo total — Totalmente de acuerdo

1. Los miembros de una pareja son compatibles entre ellos.
2. La relación ideal se desarrolla y crece con el tiempo.
3. Para mí, una relación exitosa consiste principalmente en encontrar un compañero compatible.
4. Una relación exitosa evoluciona con trabajo, dedicación y resolviendo las incompatibilidades.
5. Los compañeros románticos potenciales están destinados a llevarse bien.
6. Una relación exitosa consiste más que nada en aprender a resolver los conflictos en pareja.
7. Las relaciones que no empiezan bien fracasarán inevitablemente.
8. Los retos y los obstáculos en una relación pueden hacer más fuerte el amor.
9. No toma mucho tiempo darse cuenta si una relación está destinada a tener éxito.
10. Los problemas en una relación puedan que hacer que lo miembros de la pareja se vuelvan más íntimos.
11. El éxito de una relación se evidencia desde el principio.
12. Las relaciones suelen fracasar porque las personas no les dedican suficiente esfuerzo.
13. Para ser duradera, una relación debe ser adecuada desde el principio.
14. Con suficiente esfuerzo, casi cualquier relación puede funcionar.
15. Una relación que no empieza bien desde el principio nunca funcionará.
16. Se necesita mucho tiempo y esfuerzo para cultivar una buena relación.
17. Las dificultades al comienzo de una relación son un indicio de que fracasará.
18. Una relación no puede mejorar a menos que haya conflictos a resolver de vez en cuando.
19. Una relación sin éxito nunca va a funcionar.
20. Los argumentos a menudo permiten que una relación mejore.
21. Los problemas al inicio de una relación indican que la pareja no va a funcionar.
22. Las relaciones exitosas requieren atención frecuente.

Romantic Beliefs Scale- Spanish

Below are the Spanish translations for the items from Sprecher and Metts (1989) original Romantic Beliefs Scale. In the present study, Item 1 failed to correlate with any factors or subscales of romanticism, and for this reason, we recommend not including this item in future employments of this scale. Items 6 & 12 measure Love at First Sight, Items 3, 4, and 10 measure One and Only, items 7, 8, and 14 measure Idealization, and items 2, 5, 9, 11, 13, and 15 measure Love Finds a Way. For each respective subscale, all items should be averaged together resulting a total score for that belief. Higher scores on any of the subscales reflect a higher endorsement towards that belief system.

1 …….. 2 …….. 3 ……... 4 ……... 5 ……... 6 ……..….. 7

En desacuerdo total — Totalmente de acuerdo

1. Necesito conocer a una persona por un tiempo antes de me enamorarme.
2. Si estuviera enamorado/a de una persona, me comprometería con él o ella aunque mis padres y amigos no estuvieran de acuerdo con la relación.
3. Una vez que he sentido el amor verdadero, no lo podría sentir de nuevo de la misma forma con otra persona.
4. Creo que estar enamorado/a de verdad, es estarlo para siempre.
5. Si amo a una persona, yo sé que puedo hacer que la relación funcione a pesar de cualquier obstáculo.
6. Cuando encuentre el amor verdadero, probablemente lo sabré al poco tiempo de conocernos.
7. Estoy seguro/a de que me gustará todo lo nuevo que descubra de la persona que elija para un compromiso serio.
8. La relación que yo tenga con mi verdadero amor será casi perfecta
9. Si amo a una persona, buscaré la forma de estar juntos sin importar quien se oponga, la distancia entre nosotros, o cualquier otro obstáculo.
10. Existe solamente un amor verdadero para mi
11. Si una relación está destinada a funcionar, cualquier obstáculo (falta de dinero, distancia física, conflictos de trabajo) se podrán superar.
12. Es probable que me enamore casi de inmediato si encuentro a la persona indicada.
13. Yo creo que el amor romántico durará en mi relación y no desaparecerá con el tiempo.
14. La persona me ame será un(a) compañero/a romántico/a perfecto/a; por ejemplo: será muy tolerante, amoroso/a, y comprensivo/a.
15. Creo que si mi pareja y yo nos amamos, podremos superar cualquier diferencia y problema que surja.

Appendix B

Qualitative responses from the question, “Is there anything else that your partner could do to express affection towards you that is not listed above?” Ecuadorian responses have been translated into English.

ECUADOR	UNITED STATES
Good Morning/Good Night Texts/Calls	Surprising me
Tells me they love me on social media	Prioritizing me
Gives me nicknames	Shares their love publicly
Small details	Writing me a song
Bites me	Remembers small things about me
Sex	Sharing interests (mine or theirs)
Watch Movies Together	Acknowledging/Caring about my relationships
Cooperate on shared tasks	Engages in rituals with me (Before Bed / Making Food / Trying new things)
Walks with me	Exhibits signs of commitment to our relationship
Shares things with me	Shares life details
Spend time with family and friends together	Embedding inside jokes into regular life
Takes me out to eat	Listening to me
Makes me feel better/happy {when sad/upset/negative}	Being kind to me
Takes care of me	Encourages me
Prepares meals for me	Supports me
Plans things for me	Respects me
Worries about me	Being Honest with me
Makes me laugh	Holding me as an equal
Supports me in spite of negatives	Forgiving me
Listens to me	Being joyful together
Asks how I am	Helps me/us grow
Treats me with care	Cuddling with me
Is sincere with me	Sex
Respects me/my space/my time/my autonomy	Eye Contact
Helps me	Knows when I need something without me needing to say it
	Giving me money
	Completes chores for me
	Takes Initiative (e.g. planning)